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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,387	09/23/2003	Zheng Tan	IP-024170	2460

1726 7590 06/08/2011

INTERNATIONAL PAPER COMPANY
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EXAMINER	
FORTUNA, JOSE A	

ART UNIT	PAPER NUMBER
1741	

MAIL DATE	DELIVERY MODE
06/08/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/668,387	TAN ET AL.	
	Examiner	Art Unit	
	Jose A. Fortuna	1741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3-4, 7-9, 20-32, 34, 36, 38-39 and 41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,7-9,20-32,34,36,38,39 and 41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-4, 7, 9, 20-32, 34, 36, 38-39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubelka et al. in "Delignification with Acidic Hydrogen Peroxide Activated by Molybdate," in view of Westermark et al. WO 03/042451 A2.

Kubelka et al. teach a process of treating softwood fibers by subjecting a softwood pulp to a solution containing peroxide and a transition metal salts, Molybdate and Tungsten, at pHs between 2 to 5; peroxide concentration between 05-2% and transition metal level up to 1000 ppm, (0.1%). See table VII. Table II shows temperatures of 85ºC and residence times of 2 hrs. The data in table II shows decrease in viscosity by the treatment and table VIII shows that the pulps were refined, i.e., beaten. Kubelka et al. also teach the use of pre-bleached pulps and the same softwood fibers as claimed, see Table I for the pulps and Tables IV-V for the bleached Kraft pulps.

Kubelka et al. do not teach the use of Fe^{+2} or Fe^{+3} ions for the activation of the peroxide. However, Westermark et al. teach that ferrous or ferric ions, in salts or complexes can be used to activate/catalyze peroxide to oxidize cellulosic fibers at acidic conditions, see page 2, lines 9-30; page 3, lines 16-31; page 4, lines 3- 19. They also teach that others metal ions catalysts could be used, e.g., copper, manganese, tungsten and molybdenum, but that Fe^{+2} or Fe^{+3} ions were the preferred, see page 4, lines 3-19. Note that the last two metals, i.e. tungsten and molybdenum were the ones used by Kubelka et al.

Therefore, substituting the transition metal taught by Kubelka et al. by the Fe^{+2} or Fe^{+3} ions suggested by Westermark et al. would have been obvious to one of ordinary skill in the art since he/she would have reasonable expectation of success if such metals were used, since they have been used for the same purpose. "[W]here two equivalents are interchangeable for their desired function, substitution would have been obvious and thus, express suggestion of desirability of the substitution of one for the other is unnecessary." In re Fout 675 F. 2d 297, 213 USPQ 532 (CCPA 1982); In re Siebentritt,

372 F.2d 566, 152 USPQ 618 (CCPA 1967). Also, it has been held that it is obvious to try, choosing from a finite number of identified, predictable solutions with a reasonable expectation of success. See recent Board decision *Ex parte Smith*, --USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007) (Citing KSR, 82 USPQ2d at 1396).

Response to Arguments

4. Applicant's arguments with respect to claims 1, 3-4, 7, 9, 20-32, 34, 36, 38-39 and 41 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Peroxide Treatment of Softwood Fibers."

US Patent and Publication Nos. 5,460,924; 2002/0144796 A1, cited in the attached PTO-892 form, teach the use of Fe^{+2} or Fe^{+3} ions along with H_2O_2 at pHs falling within the claimed range.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose A. Fortuna whose telephone number is (571)272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew J. Daniels can be reached on 571-272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jose A. Fortuna/
Primary Examiner
Art Unit 1741

JAF